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quality a nurse can possess in private duty—next to correct surgical technique—is the quality of being acceptable to her patient.

The quality of being personally acceptable in all relations, not only in the ordinary, but in the extraordinary, in trying, arduous, wearisome relations—this is the trump-card of success in the hand of the private nurse. Because of it she will be invaluable to both doctor and patient. If the hospital is fitting the nurse for private duty, this so important a factor in her equipment should not be overlooked. Its value should be pointed out to the nurse and emphasized in every possible way. Every opportunity should be taken to cultivate those elements of character—the power of putting oneself in another's place, the gracious unselfishness in little things, and the delicate Christian courtesy—which, united, give the quality of personal charm.

Let us hope that the training-schools of the future will teach the art of personal service to the helpless in its fulness and completeness. Then will be solved many difficulties in the sphere of life in which nursing bears so large a part.

DESCRIPTION OF APPLIANCES EXHIBITED AT THE CONVENTION OF THE AMERICAN SOCIETY OF SUPERINTENDENTS OF TRAINING-SCHOOLS FOR NURSES, HELD IN PITTSBURG, OCTOBER, 1903

NEW YORK HOSPITAL

THE following excellent description of the electric pad, the use of which was demonstrated at the Western Pennsylvania Hospital, was found in a recent issue of THE AMERICAN JOURNAL OF NURSING:

> "HEAT BY ELECTRICITY—THE MECHANISM AND OPERATION OF AN ELECTRIC HEATING-PAD.—In hospitals, institutions, and homes supplied with electricity an electric device is fast supplanting the hot-water bag, hot-water bottle, hot cloths, and other means of applying heat locally to the body. This device is in the shape of a pad, varying in size and accordingly in price, the latter ranging from six to thirteen dollars. The purchase price, however, practically covers the entire expense, as the cost of operating is trifling and as, with care, the pad remains in good order for an indefinite period of time. All that is necessary for the operation of the electrical heating-pads is an electrical current with a standard voltage up to 120 and a regulation fixture.
>
> "The pad itself consists of a spiral made by yards and yards of infinitely fine wire about a long and very narrow strip of asbestos. This spiral is in turn enveloped in asbestos and, thus isolated, is stitched back and forth to the inside of a muslin bag. The pad, now in shape, goes into a water-proof covering, which protects the wire from perspiration from the patient's body. Then comes a wrapping of lamb's wool, which forms the outside of the pad. The conductor

cord is supplied with a plug for connecting, through the lamp-socket, with either a direct or an alternating circuit and with a switch, which is within easy reach of the patient. By means of this switch a patient can easily regulate the current, which can maintain, in the lamb's wool covering, a maximum temperature of 180.

"The infinite advantage of these electrical heating-pads over more crude devices for applying heat in such cases as pleurisy, neuralgia, and neurasthenia is evident. One has a soft, light, flexible pad less than three-fourths of an inch thick, which can easily be applied to the site of pain and maintained there indefinitely with little or no inconvenience or disturbance to the patient.

"The New York Hospital was one of the first to adapt its electric plant to this use, but this mode of applying heat is now found widely established in hospitals and sanatoria.

"J. C., Class of 1903, New York Hospital."

On the same plan is a larger pad which is used for heating the beds of surgical patients. It is made the same length as the bed and put in when the patient is taken to the operating-room, so that when he returns the bed is thoroughly warm. If he is suffering from shock, the pad may be put over him for a time outside one of the blankets and will add very little more weight, while greatly increasing the heat.

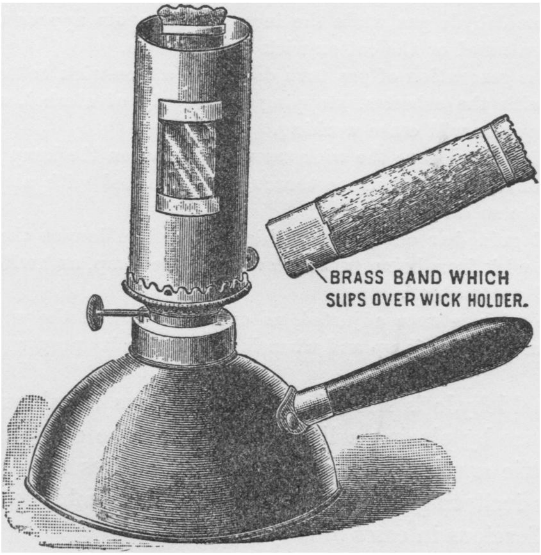
If moist heat is desired, a flannel may be wrung out of hot water, covered with rubber sheeting or oiled muslin, and the electric pad applied over this. This will be found much more comfortable and agreeable for the patient than a flaxseed poultice, as well as being more effectual.

The croup kettle, which used to be such a source of anxiety to the nurse because it must stand over an alcohol or gas flame close to the bed, is now robbed of its danger, for it is kept hot on a small electric stove. Stuping flannels or any hot application can be kept at the desired temperature at the bedside of the patient by means of the same apparatus. An instrument and water sterilizer heated by electricity has been used very successfully in the wards. The blankets and gowns used for the patients in the operating-room are kept in a cupboard which has an electric coil under the shelf so that they may be always warm and ready for use.

A very convenient arrangement for heating towels during an operation has been introduced into the operating-room. The towels, wrung out of sterile water or bichloride solution, are placed in a basin having a perforated bottom. This fits closely over another basin filled with sterile water and the whole stands on an electric stove. The steam passing through the perforations in the upper basin keeps the towels or abdominal pads hot, so that they are always ready when called for by the surgeon.

The electric drop-light has done away entirely with the use of candles or lanterns in working over the patients at night. It overcomes the danger of setting fire to the bedding, can be so closely shaded that patients in adjoining beds are not disturbed by it, and has been arranged with a trolley running along the ceiling, so that, after it is attached, it can very easily be moved from bed to bed for the entire length of the ward.

Rauschenberg's formaldehyde deodorizer was originally designed for the New York Hospital, and is used constantly as a deodorizer and disinfectant. In the latter case it is useful and convenient, especially for small closets and in air-tight instrument- and dressing-cabinets. It does not, of course, generate sufficient gas to disinfect a large area.



Rauschenberg's Formaldehyde Deodorizer

The chemistry of the lamp is very simple. The asbestos converter is impregnated with a preparation of platinum which helps to separate the atoms of alcohol. The alcohol as it comes in contact with the hot converter is vaporized and gives up two atoms of its hydrogen, which changes it from methyl alcohol CH_2O to formaldehyde gas CH_2O. The directions are as follows:

"DIRECTIONS.

"Fill the lamp about three-quarters full of wood alcohol (methyl alcohol), screw on the burner, and be sure that the cotton-wick, which goes into the lamp, extends above the brass wick-holder about three-eighths of an inch when the wick is turned up full.

"Then turn down the wick and be sure that it goes at least one-eighth of an inch below the top of the brass wick-holder.

"Hold the asbestos converter by the brass band at the bottom and slide it over the brass wick-holder, pressing it down as far as it will go. (Be careful not to take hold of the asbestos, as it will be liable to loosen it from the brass band at its base.)

"Then turn up the wick in the lamp until it meets and presses against the bottom of the asbestos.

"In about one minute the asbestos will have absorbed enough alcohol to be in working order, and as soon as it will burn light it at the base.

"Let it burn until incandescent spots appear on at least half of the converter, then blow out the flame, place the tin chimney in position, turn the mica-covered opening towards the flat side of the wick, and the converter will continue to generate formaldehyde gas while the incandescent spots appear upon it, until the alcohol is consumed or the cotton-wick turned down.

"To stop the generation of gas turn down the cotton-wick holder, which will break contact with the asbestos, stopping the supply of alcohol, and in a few minutes the converter will cease working.

"Be sure always to leave the wick turned down when the lamp is not in use, otherwise the converter will become thoroughly saturated with alcohol, and the results will not be so satisfactory.

"The small guide-bar on the rod, which raises and lowers the cotton-wick, will prevent the wick from being turned down into the lamp, and will also prevent its being turned up too high.

"After the wick is once adjusted, as explained above, the small guide-bar will denote when the wick is up and when it is down to its proper position."

The formaldehyde is irritating to the mucous membranes, but this may be overcome by placing a little menthol on the converter or in the alcohol. A little ammonia sprinkled around removes the excess of gas. In spite of its irritating effect upon the mucous membrane, it is nevertheless very efficacious in cases of coryza.

HYPODERMOCLYSIS AND SALINE INFUSION IN THE PRESBYTERIAN HOSPITAL, NEW YORK*

HYPODERMOCLYSIS and saline infusion are frequently given in the wards of the Presbyterian Hospital, the former somewhat oftener than the latter, principally because it requires less skill, disturbs the patients less, can be repeated with greater frequency, is slower in acting and more lasting in its effects, and is liable to fewer accidents. Infusion is employed almost exclusively in collapse during and after anæsthesia and

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* Demonstration given by the Presbyterian Hospital Training-School for Nurses at the Convention of the Society of Superintendents in Pittsburg, October, 1903.

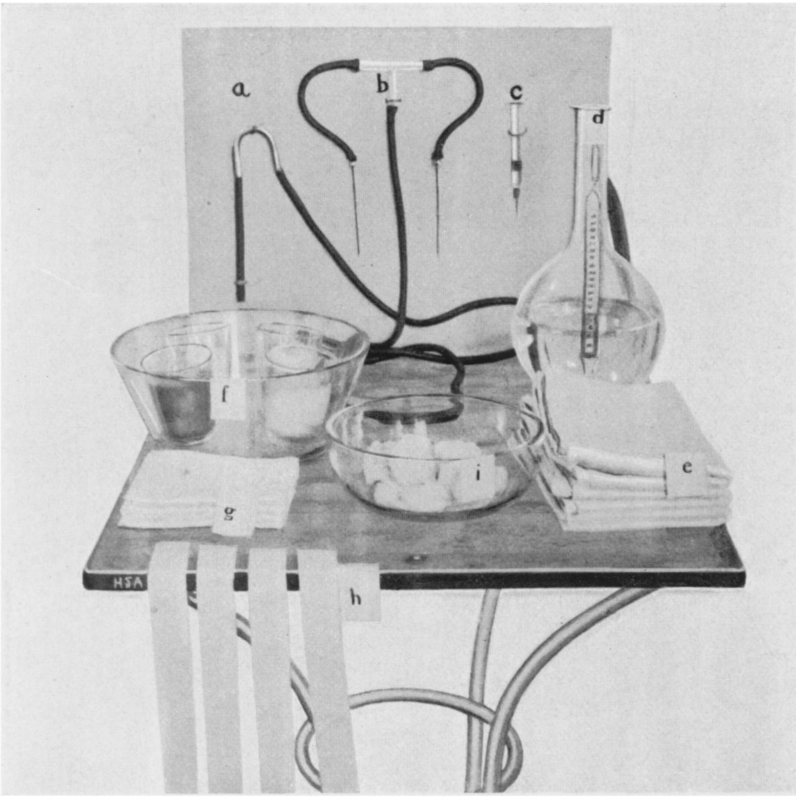

FIG. 1.—APPARATUS NECESSARY FOR HYPODERMOCLYSIS

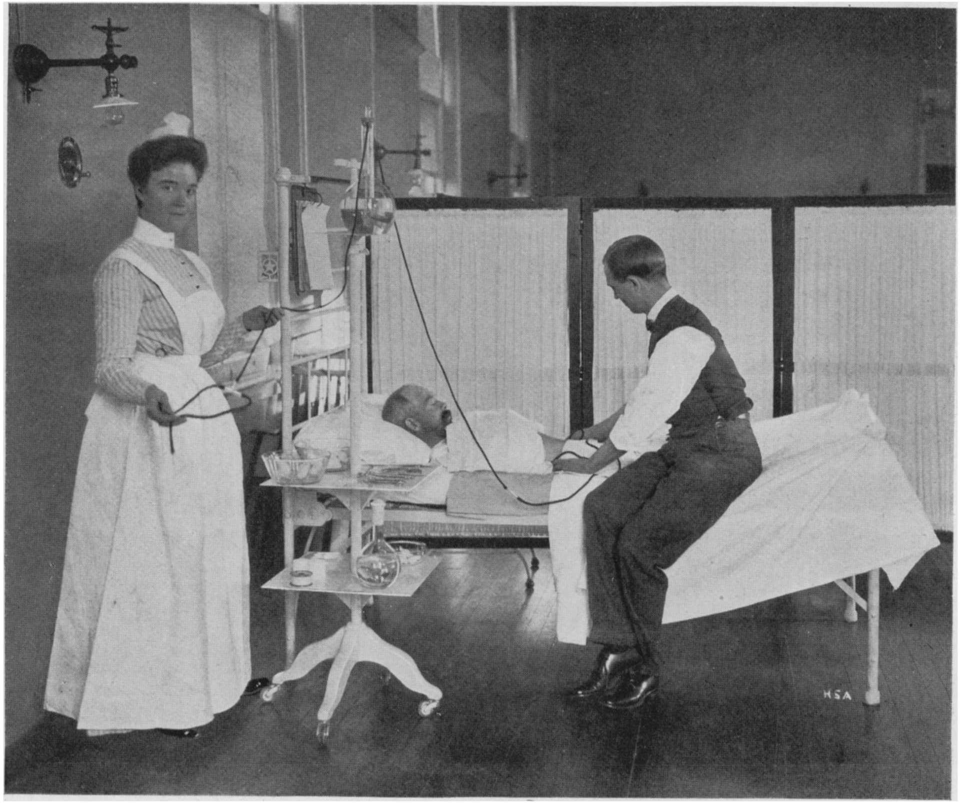

Fig. 2.—GIVING HYPODERMOCLYSIS AS PREPARED FOR TWO PATIENTS, USING STAND

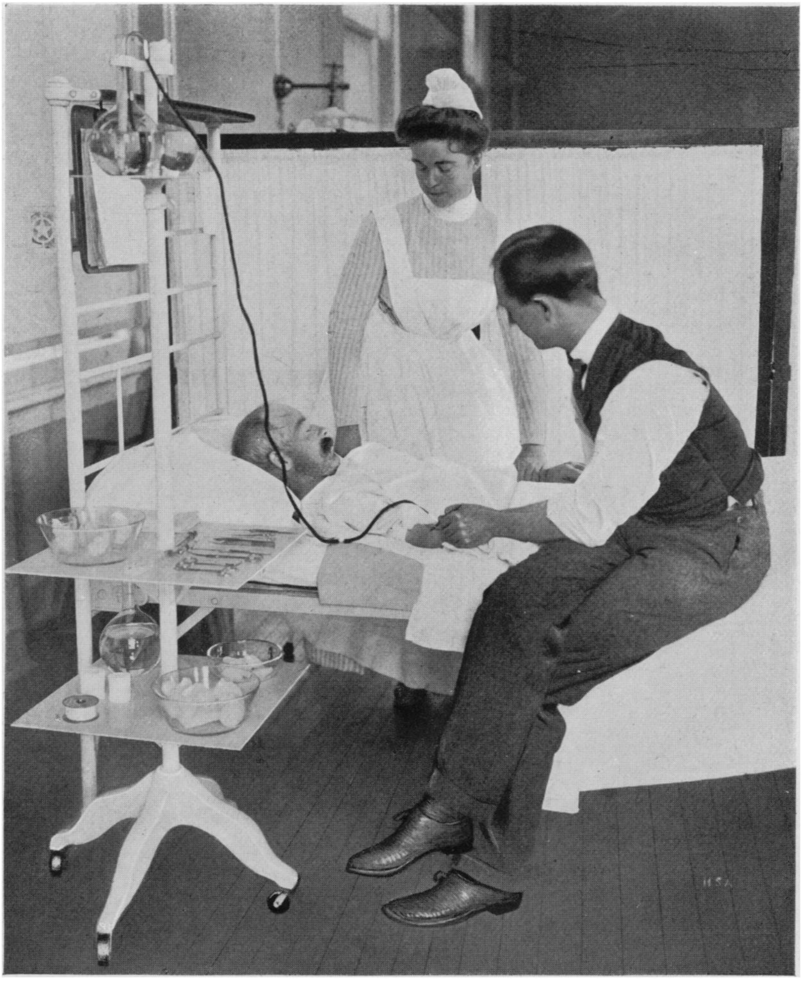

Fig. 3.—STAND ARRANGED FOR AN INFUSION

gas poisoning, insolation, uræmia, and as a last resort in cardiac disease; while hypodermoclysis is applied to these and to any case of extreme prostration and collapse such as may occur in typhoid fever, pneumonia, etc. It is often repeated at six-hour intervals, and as many as eleven applications have been given to one patient in the course of five days.

The apparatus is constantly in readiness for immediate use. In one sterile package are the rubber tubing, tube-carrier, "T" tube, needles (medium-sized aspiration needles are used), towels, dressings, and thermometer. The salt solution is kept heated to about 120° F. in sterile flasks in especially arranged cabinets with thermometers attached. In sealing the flasks, besides the ordinary plug of sterile cotton in the neck, sterile gauze is placed over the mouth of the flask and carried three inches down the neck on the outside to keep it from contact with the hands and non-sterile objects. The "scrub-up" tray, a sterile glass dish with four small glasses containing respectively green soap, ether, alcohol, and bichloride and several sterile gauze sponges, is prepared in each ward. (Fig. 1.)

FIGURE 1.—APPARATUS NECESSARY FOR HYPODERMOCLYSIS.

a, tube-carrier; nickel-plated fitting over top of d; with six feet rubber tube.

b, T-shaped glass tube admitting the use of two needles.

c, hypodermic syringe with two per cent. cocaine.

d, flask of fifteen hundred cubic centimetres capacity with bath thermometer holding steriline salt solution, nine per cent.

e, three sterile towels for isolating field of operation.

f, "scrub-up basin" containing gauze sponger, green soap, ether, alcohol, and bichloride.

g, sterile dressings.

h, adhesive strips (not sterile).

i, basin for holding sponges as used.

The procedure is as follows: A sterile table is prepared with the apparatus as depicted in Figure 1, with the exception of adhesive, and placed at the side of the patient's bed. The physician sterilizes his hands by scrubbing with green soap and water and immersing in 1 in 1000 bichloride. He isolates the region in which the clysis is to be given by spreading sterile towels, and cleans it by scrubbing with green soap followed by ether, alcohol, and bichloride, finally wiping it dry. The region is selected with regard to the looseness of the tissues and the site of the disease, beneath the breast or in the posterior fold of the axilla in abdominal affections, in the flanks midway between free border of ribs and crest of the ilium in thoracic, being usually chosen. However, the thighs or gluteal region may be used if necessary. The temperature of the water in the flask having been brought down to 116 to 118° by the addition of cold sterile salt solution, the operator inserts the tube-carrier and tube, which has a small piece of glass in the end to act as a plummet, into the flask, and the nurse places it upon the shelf or at top of the bed or upon a high stand.

The tube-carrier consists of a V-shaped piece of metal, nickel-plated, forming a groove in which the rubber tube may rest and not kink or slip out of the flask. In order to start the siphonage the operator strips down the tube as in removing a test meal, thus drawing the solution to the top of the flask. While he cocainizes the places where he intends to insert his needles, the flow is controlled or stopped by the nurse's pinching the tube. Finally the needles are inserted on either side of the body while the solution is flowing. From five hundred to one thousand cubic centimetres and even twelve hundred at times are allowed to flow into the tissues, changing the position of the needles from time to time, without withdrawing them, to prevent overdistention or slough when a large hypodermoclysis is given into resistant tissues.

When the required amount has been introduced the needles are withdrawn and a sterile compress placed over each needle puncture and retained with adhesive strips.

The apparatus is then taken to pieces, boiled with the exception of the thermometer and the hypodermic syringe, which are disinfected by using carbolic acid, five per cent., and dried,—the needles by repeatedly wiping the wire passed through them with sterile gauze, the tubing by pulling it out and wiping with sterile towels,—then wrapped up ready for another case. (Fig. 2.)

During the summer months many isolation cases are admitted to the hospital, and the need for an apparatus to give clysis and infusion rapidly and to a number of patients simultaneously was met by arranging for double siphonage.

In giving a clysis to two patients a large flask is used fitted with a stopper through which pass two glass outlet tubes and an inlet tube. To each of the outlet tubes is attached a clysis apparatus, without the tube-carrier, however, as the outlet tubes are bent to render this unnecessary. Such a flask is in use in Figure 2, the nurse holding the extra tubes and needles. This arrangement is necessarily used only in rare instances, such as during an insolation epidemic, but it is of considerable utility, and the principle can be extended to giving three or four or even more at the same time.

The stand shown in Figure 2, devised by Miss A. S. Bussell, head nurse of the accident ward, for operating-room use, is made of white enamelled steel with three shelves. The upper, adjustable in height, holds one large flask or two smaller ones and takes the place of the shelf on the ward beds; the middle shelf holds sterile supplies and takes the place of the sterile table, while the lowest shelf is for non-sterile supplies. The stand is easily moved from place to place, easily cleaned, adjustable, and very convenient.

In the giving of an infusion in the Presbyterian Hospital similar disposition is made of flasks and tubing, sterile and non-sterile materials. The instruments are likewise kept ready, sterile. The sterilization of hands and operating-field is similar, but the saline is introduced, of course, into one of the veins of the arm. Figure 3 shows the stand arranged for an infusion and the physician in the attitude of giving it.

ICE POULTICE

Ice poultices are often preferable to ice-bags for two reasons: because they can be made to fit to any surface of the body and a higher degree of cold can be produced. In cases of tonsillitis or other inflammation of the throat they are to be especially commended. The poultice is made of two-thirds ice, one-third linseed, and a fair amount of salt. The coverings are made by using oiled muslin and adhesive plaster.

There are two envelopes, or bags, one smaller than the other, made of the oiled muslin and cut the desired shape, four pieces in all. The edges of two pieces are carefully bound together (excepting at one end) with adhesive about one inch wide.

The smaller, or inner bag, is then filled with the poultice material and slipped inside the larger, after which the ends are fastened with adhesive plaster and the poultice is complete.

HYGIENE OF THE HOUSEHOLD

By EVELEEN HARRISON
Graduate Post-Graduate Hospital, New York

(Continued from page 275)

We were not sent into this world to spend our days seeking for amusements, but without doubt the intention of the Almighty is that we gladly take hold of the pleasures which stray across our pathway and weave them into the leaves of our life's history, so as to form bright touches of color against the sombre background of our daily lives.

Have you ever heard of "preventive medicines"? There are many varieties, such as fresh air, sunlight, cold water, rest, etc., but one of the most useful and least understood is recreation, or—for it means the same thing—relaxation.